

PREGNANCY DIAGNOSIS STATION

REPORT OF FOURTH YEAR'S WORKING

BY

B. P. WIESNER

MACAULAY LABORATORY, INSTITUTE OF ANIMAL GENETICS,
UNIVERSITY OF EDINBURGH

Previous reports¹ dealt with the cases diagnosed by the station up to the end of January, 1932. The present report refers to the work carried out between the end of January, 1932, and January 31st, 1933. As previously, only cases submitted by practitioners, hospitals, or public health authorities are considered. There will be a separate report on the results of tests undertaken on selected samples in connexion with certain clinical studies. In all 2,368 cases have been dealt with in the period of the report; this figure does not include repeat tests. The total number of cases diagnosed since 1929 thus exceeds 5,500.

TECHNIQUE

The modifications of the original technique which were introduced previously (routine detoxication with sulphocalicylic acid, etc.) were retained; detoxication was generally successful. Gradation of dosage was abolished, and equal doses of urine (0.4 c.cm. per injection) are now given to all mice.

RESULTS

Reports from senders numbered 1,452. Of these, 1,432 contained a confirmation of the diagnosis, which had been "positive" in 772 cases and "negative" in 660. There were twenty reports in which the ultimate clinical diagnosis differed from the diagnosis submitted by the station; this would appear to give an error of 1.37 per cent. Analysis of the data, however, shows that in several cases the error was only "apparent" in the sense in which this term was used in previous reports. For instance, a "negative" and seemingly misleading reaction is obtained when the ovum has died, even though expulsion has not occurred. If cases of this and similar nature be eliminated, a "real" error of 0.89 per cent. is found. Of the "real" errors all but one were "negative errors"—that is, the station gave a "negative" diagnosis in the presence of pregnancy. In five cases of "negative error" pregnancy had been in its very early stages; repetition of the test (in two cases) three to four weeks later gave "positive" results. On the other hand, "positive" tests were obtained (and confirmed by clinical observation) as early as four days after the first missed period. In the case of samples collected very soon after the last menstrual period, it thus seems advisable (1) to regard a "positive" diagnosis as almost certainly correct, and (2) to have the test repeated after an interval of two to four weeks if the reaction is "negative" and the clinical diagnosis continues to be doubtful.

When this year's results are compared with those of previous years a not inconsiderable increase in accuracy is found. This year's data show that the test was correct in 99.11 per cent. of all those cases where clinical control was obtained; the highest previous figure was 97.8 per cent. It is possible that the improvement was due to the higher dosage used in last year's tests; on the other hand, the decrease in the incidence of errors may be spurious. By drawing conclusions from the data controlled by clinical findings it is implied that the distribution of errors in the whole group of tests is the same as in the controlled group. As has been mentioned in a previous report, this assumption may be mistaken. It is hoped that in future all those who avail themselves of the services of the station will fulfil the request to inform us of the ultimate clinical finding, and thus help to eliminate a possible source of erroneous conclusions.

"NEGATIVE" TEST AND ABORTION

This year's "errors" again contain several cases in which a "negative" diagnosis with definite clinical signs of

pregnancy was followed by abortion. The data are now sufficiently numerous to justify more detailed investigation; this is now in progress, and the results will be published shortly.

FRIEDMANN TEST

The station has carried out a number of Friedmann tests (rabbit tests—see last year's report) during the last six months. The results seem very satisfactory, but the number of tests controlled by clinical reports is still small. A report on the results will appear when the numbers justify an analysis.

FEES

The fee charged by the station for the Zondek-Aschheim reaction carried out on behalf of private practitioners will remain unchanged at 10s. The fee for hospitals or public institutions will be raised by 1s. to 4s. It is necessary to make this increase because the number of hospital cases rose during the last year to a surprising extent, and the fee of 3s. involved a considerable loss. As in previous years, the station was secured against deficit by a guarantee from the Medical Research Council.

DISPATCH OF SPECIMENS

Careful packing of the specimen is essential, and the name and address of the doctor should be put on the parcel. It has occurred on several occasions that parcels were destroyed by the Post Office (in accordance with its regulations) when the bottle containing the sample was broken, so that fluid escaped. In several such cases the station was unable to trace the sender. It is therefore particularly requested that details regarding the case, and the name of the sender, should be forwarded to the station under separate cover, and that the fee accompany this information in order to save unnecessary expenditure and work. It may also be mentioned that the station does not send out or return containers for samples; any clean bottle will serve the purpose.

Finally, clients are urged to comply with the following requests: (1) to give full particulars of every case; (2) to inform the station of the ultimate result. The scientific value of the data collected by the station would be greatly enhanced if detailed information were given in a greater number of cases.

THE "POOR-WHITE" PROBLEM IN SOUTH AFRICA

[FROM OUR CORRESPONDENT IN PRETORIA]

The report of the Carnegie Commission of Investigation on the "poor white" question has now been published. This Commission was the outcome of a visit paid to South Africa in 1927 by the president and secretary of the Carnegie Corporation of New York. The problem was represented to them to be in urgent need of investigation, and a request was addressed to the Corporation by the Dutch Reformed Church asking for support towards this investigation. The report is published in five volumes, dealing in turn with the economic, psychological, educational, health, and sociological aspects of the problem. Each of these aspects was the subject of special investigation by a technical expert, but the members of the Commission kept in close touch with each other throughout the inquiry, so that they were able to make very important joint recommendations.

As the term "poor white" implies, the European inhabitants of the country traditionally have a higher standard of living than the non-European. The majority of poor whites are still imbued with the conviction that they are superior to the Bantus, and this feeling has played an important part in preventing intermarriage between the races. There was an insufficient supply of European labour at the time when modern economic development began in South Africa. Consequently the economic system has been organized on a basis of cheap

¹ *British Medical Journal*, 1930, i, 662; 1931, i, 860; 1932, ii, 759.

native labour, and this has hindered the poor white from being absorbed in the new industrial system.

The unrestricted competition on the labour market between the unskilled Bantu and the poor white, and the low wages the European then receives, create conditions of poverty which have a demoralizing effect on the Europeans. The so-called colour bar is designed to restrict certain forms of semi-skilled labour to Europeans, to the exclusion of the Bantu. As the Commission points out, this "bar" will defeat its own end unless it is of a temporary nature and designed to give the protected Europeans the opportunity of increasing their skill. It is not sufficient for the State merely to provide the European with employment; measures must be taken to ensure that those who are assisted in this way are spurred on to greater personal efforts and to improved efficiency. A policy which, in certain spheres, protects an unskilled poor white by reservation of work against non-European competition makes such competition all the more severe in other parts of the labour market where the "colour bar" is not applied.

The poor white population of the Union is estimated at at least 300,000 out of a total European population of under 2,000,000. Their economic decline has been caused principally by inadequate adjustment to modern economic conditions. This has occurred especially among the older Dutch-speaking portion of the population, which has been severed from European progress and development for many generations, and has lived chiefly under the simple conditions of the pioneer. The discovery of diamonds and gold, the capitalistic exploitation of mines, the influx of immigrants with the modern business outlook, and the rapid penetration of railways into the interior quickly forced the development of the country into new channels from about 1880. The older settled white population was faced with entirely changed conditions, under the direction, mainly, of English-speaking persons.

The medical inquiry conducted by Dr. W. A. Murray, with the co-operation during the initial stages of Dr. E. H. Cluver (both of the Union Health Department), aimed at ascertaining to what extent ill-health was a cause of "poor whiteism." The data collected showed a high mortality among the children of poor whites. This mortality is attributed largely to insanitary habits and surroundings, which often lead to faecal pollution of water and food with resulting infection and death. The dwellings were usually found to be defective, and overcrowding is considered to account for much disease.

A nutrition study was carried out among school children in the Transvaal, including those who, besides being poor, were suffering from malaria. This investigation seemed to indicate that poverty and unsatisfactory diet generally had a more detrimental effect on nutrition than malaria or other diseases. The observations of the education expert support this. Poor white children suffering from malaria did not score noticeably less in scholastic and intelligence tests than similar children in other areas. In malarious districts the disease is, however, frequently accompanied by inadequate diet among the poor, and these two factors are palpably injurious to health. The investigations led to the conclusion that epidemic diseases, insufficient or unsuitable diet, and climate are not among the great primary causes of impoverishment of a section of the white population. The conditions of poverty and ignorance lead to lack of food and to wrong diet; these weaken the resistance of the poor white to disease and reduce his working power, thus making the problem more acute.

The diet among these people was found to be inadequate in many important respects. In a small percentage the quantity itself was found insufficient. More generally, the food was monotonous, being ill balanced and lacking in variety, especially in regard to vegetables; several important elements such as proteins, fats, and vitamins—particularly vitamin C—were insufficiently represented. Invariably the diet contained too high a proportion of starch, usually in the form of mealies but sometimes also in the form of potatoes. The chief causes of the inadequacies in the diet can be attributed to ignorance

concerning the choice and proper preparation of food, and to poverty and unfavourable natural conditions. Droughts and other plagues in the semi-arid Karroo, for instance, often result in shortage of food; even under normal conditions the low rainfall in this region makes it difficult to grow vegetable food.

The examination of children of poor whites showed that the better-fed children were superior to the underfed children in height, weight, and chest measurement. Conditions of isolation and the lack of stimulating influences have contributed to keep the poor white family backward as regards housing and housekeeping, and have prevented and retarded the development of the social sense and of the consciousness of solidarity with neighbours. School children were selected as affording the most convenient and reliable material for the nutrition study. Variations in their health and physique formed a sensitive index of the health of the community, and in them could be clearly seen the evil results of poor heredity, of familial or communal ill-health, and of unfavourable environment. The methods employed in collecting the data consisted of a physical examination of each pupil in school, and a visit to his home to ascertain previous and present health, diet, health habits, and family circumstances. Wherever possible, the mother's statement was checked by personal observations in the home, and by inquiries from the school principal.

HEALTH OF THE ARMY IN THE U.S.A.

In his last report on the health of the Army Medical Department of the United States, Major-General R. U. Patterson draws attention to the relation of economic depression to military health figures. The number of enlistments, and more especially the number of first enlistments, has a very material influence on the Army morbidity and mortality rates, since communicable diseases occur much more frequently among men who have not been exposed previously to crowd infections. In consequence of the period of economic depression which prevailed in the country generally during 1931-2, there were comparatively few desertions, discharges by purchase, or loss of men for any other reason than expiration of term of service. There were therefore fewer vacancies to be filled by enlistments, the number being 49,274, as compared with 50,910 in 1930 and 61,898 in 1929. On the whole the health of the Army was very satisfactory during the year. The admission rate for sickness due to all causes was higher than in 1930, but this was largely owing to an epidemic of acute respiratory disease which occurred early in the year. The average admission rate to hospital from all causes for white enlisted men in the United States has fallen by about 76 per cent. during the past eighty years; the same rate for the respiratory group has declined by only 37 per cent. Fatalities from automobiles have increased so greatly during the past two years that deaths from this cause now head the list. In a large number of these cases faulty driving was clearly the cause of the fatality. General Patterson considers this increase in automobile deaths alarming, and urges that appropriate measures should be taken to bring about a reduction in the number of such accidents. He believes also that there is a large amount of unnecessary roughness in athletic games, injuries incurred while playing baseball coming first and football second. In the twelve months reviewed the admission rate for venereal disorders was the lowest yet recorded (45.6 per 1,000). He attributes the reduction during the last quarter of a century to the initiation of such control measures as education in sex hygiene, periodical physical inspections, adequate treatment of cases, restriction during the infectious periods, forfeiture of pay for absence from duty because of venereal disease, prohibiting military personnel from visiting the so-called "red-light" districts, better supervision in the administration of prophylaxis, and, finally, holding the unit commander responsible for the control of such diseases in his organization.